Message

From: Davis, Eva [Davis.Eva@epa.gov]
Sent: 11/2/2018 2:24:54 PM
To: d'Almeida, Carolyn K. [dAlmeida.Carolyn@epa.gov]; 'Brasaemle, Karla' [KBrasaemle@TechLawInc.com]; Wayne Miller [Miller.Wayne@azdeq.gov]; steve@uxopro.com; Bo Stewart [Bo@Praxis-Enviro.com]
Subject: FW: 2018-11-1 - WAFB - FYI - Praxis Model- ST012 Benzene Plume Profile Estimate -BStewart Praxis

I withdraw my question – I see now that it is not a separate section as I was looking for, but included in the main part of the document

From: Davis, Eva
Sent: Friday, November 02, 2018 8:39 AM
To: d'Almeida, Carolyn K. <dAlmeida.Carolyn@epa.gov>; 'Brasaemle, Karla' <KBrasaemle@TechLawInc.com>
Cc: 'Wayne Miller' <Miller.Wayne@azdeq.gov>; steve@uxopro.com; Bo Stewart <Bo@Praxis-Enviro.com>
Subject: RE: 2018-11-1 - WAFB - FYI - Praxis Model- ST012 Benzene Plume Profile Estimate -BStewart Praxis

Thanks to Bo for doing the modeling. I haven't had a chance yet to read it, but I don't see anything about a sensitivity analysis – was one done?

From: d'Almeida, Carolyn K.
Sent: Thursday, November 01, 2018 12:57 PM
To: Davis, Eva <Davis.Eva@epa.gov>; 'Brasaemle, Karla' <KBrasaemle@TechLawInc.com>
Subject: FW: 2018-11-1 - WAFB - FYI - Praxis Model- ST012 Benzene Plume Profile Estimate -BStewart Praxis

See Bos memo

Carolyn d'Almeida
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"We can evade reality, but we cannot evade the consequences of evading reality." - Ayn Rand

From: Wayne Miller <Miller.Wayne@azdeq.gov>
Sent: Thursday, November 1, 2018 9:40 AM
To: d'Almeida, Carolyn K. <dAlmeida.Carolyn@epa.gov>; JERRARD, CATHERINE V CIV USAF HAF AFCEC/CIBW <catherine.jerrard@us.af.mil>
Cc: Paula Panzino <Panzino.Paula@azdeq.gov>; steve <steve@uxopro.com>; bo@praxis-enviro.com
Subject: 2018-11-1 - WAFB - FYI - Praxis Model- ST012 Benzene Plume Profile Estimate -BStewart Praxis

Dr. Stewart, with Praxis Environmental Tech. Inc., completed a transport forecast model for ST012 benzene. These results may assist during the additional monitoring well discussion.
Carolyn, Catherine – I believe this information can be released to all subject knowledge experts and stakeholders. I assume y'all will forward, or let me know if ADEQ/Praxis should forward and to what parties.

Thanks.

From: Bo Stewart <Bo@praxis-enviro.com>
Sent: Wednesday, October 31, 2018 2:32 PM
To: Wayne Miller <Miller.Wayne@azdeq.gov>; Steve Willis <steve@uxopro.com>
Subject: 2018-10-31 - WAFB - Praxis Model- ST012 Benzene Plume Profile Estimate -BStewart Praxis

Hi Wayne & Steve,

I used a screening level model to forecast the potential extent of the dissolved benzene plume following SEE. The model results are qualitative because the data input are qualitative, but the results can help guide the placement of additional characterization wells at the site. The results should also ease concerns about the benzene plume migrating anywhere close to downgradient municipal wells. In particular, the calculations indicate,

- CZ plume for MCL should not exceed about 600 feet
- UWBZ plume length for MCL should remain relatively short at about 200 feet
- LSZ plume for MCL should not exceed about 500 feet

These plume lengths are consistent on an order-of-magnitude basis with historical measures at the site.

Transient calculations suggest a new equilibrium could be attained in about 6 or 7 years; however, this does not account for ongoing changes in the former thermal treatment zones where temperatures are decaying slowly nor does it include changes in conditions for NAPL dissolution and degradation.

The implications of these calculations and a comparison with recent measures of benzene concentration in the monitoring wells suggest additional characterization wells would be useful if placed in each zone as follows,

- CZ about 300 to 400 feet downgradient of CZ15
- UWBZ about 100 to 150 feet downgradient of NAPL boundaries
- LSZ about 100 to 150 feet downgradient of NAPL boundaries

I think it would be good to better define the actual boundaries of each zone with these wells rather than wells further downgradient that would very likely remain below MCL. Let me know if you have any questions or would like the MS Word file to make edits.

Thanks,

Bo

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Lloyd "Bo" Stewart, PhD, PE
Praxis Environmental Tech., Inc.